
DigiCopy GS, v1.0

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< INFORMATION >

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Fantastic Designs
P.O. Box 120
Woodbury, New York 11797

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< HARDWARE >

DigiCopy GS requires an Apple IIgs with a mouse. In its versatility, it supports almost any configuration or combination of peripherals:

RAM disks (including /RAM5/ and Apple II Memory Expansion Card), ROM disks, ProDOS hard disk drives, 3.5" drives (400 or 800k), DuoDisk or Disk II floppy drives (or Apple 5.25 drive through SmartPort), 40-track drives, or any other ProDOS storage device, and all IIgs memory expansion cards.

< FEATURES >

- o Fast duplication of DOS, ProDOS, CP/M, and Pascal disks with unique upload/download capability and checksum (optional)
- o ProDOS floppies can work faster than their originals! (our QwikTrack option)
- o Has "mass-production" capabilities for making many duplicates of one disk
- o Completely mouse driven and easy to use
- o Full-featured fast support for one-drive users
- o Supports 40-track disks in any format
- o Takes full advantage of IIgs expansion memory without destroying the contents of memory, such as tools or RAM disks like other copiers.
- o Intelligent disk formatting with media verification
- o Fast disk/file checksum
- o Disk optimization
- o Intelligent error checking and error correction

< FEATURES EXPLAINED >

Duplicating -- the process of reading the information from a disk and writing the information to a different disk; both disks will be identical when the duplication is complete.

Mass Production -- using the "Buffered Copy" option (below), you may write a copy of one disk to several disks. This ability to quickly "mass produce" a disk has been a very popular feature in classroom environments.

QwikTrack -- using a more precise write routine, a 5.25" disk copied with DigiCopy using the QwikTrack option will operate more quickly than the original.

Checksum -- a value (calculated by a program, such as DigiCopy and DigiPack) for a particular file or disk to verify that its data is an exact duplicate of the original.

Optimizing a disk (ProDOS only) -- writes zeroes to all unused blocks on a disk thus clearing all deleted information contained on a volume. After using this option, all deleted files will be irretrievable.

< DUPLICATING A DISKETTE >

DUPLICATE VOLUME -- creates a duplicate of a disk. Highlight the device containing the diskette to be duplicated by clicking on its name in the SOURCE window. Highlight the device you wish to receive the duplicate by clicking on its name in the TARGET window (any information contained on this disk will be destroyed). Then simply click twice in the "Duplicate Volume" button. The copy will proceed according to the current Program Settings (below).

BUFFERED COPY -- if a duplicate is made in "one pass" (the entire disk is read into the buffer and then written to the target disk without having to return to the original), then and only then will the "Buffered Copy" button appear. This option will allow you to make multiple copies of one disk. Simply select the device to receive the duplicate, if you haven't already. Then click in "Buffered Copy" twice. The program will proceed as if it has just read the SOURCE disk and is ready to write. After the disk has been written, a window will open asking "Another Copy" or "Quit". At this point you may click on a new TARGET device, if desired. You may select "Another Copy" to write the buffer to another disk, or "Quit" to return to the main program options.

<> The number in the upper-left corner of the buffered copy window reflects the number of duplicates created with the "Buffered Copy" option, while the number in the upper right corner reflects the number of copies made since the program was run.

PROGRAM SETTINGS -- these settings affect how a copy is made. Click once in the "Program Settings" button to display the current settings for modification. You may change the settings as desired, then click in the "OK" button to save the changes in memory. All subsequent copies will use these settings unless they are changed again.

<> **DISK VERIFY media** (default) -- will determine (for most disk drives) if a disk's surface is damaged or unusable for any reason.

<> **DISK VERIFY write** -- this setting will perform a checksum on the data after it is written to disk. This will positively ensure that a copy is exact. This setting is only NEEDED when you believe a disk may be damaged in some way. A checksum for the disk will be displayed when the copy is completed. If the original checksum differs from the copy, DigiCopy will display "NO MATCH" to indicate a faulty duplicate.

<> COPY TYPE used only (default) -- if the disk is ProDOS, this setting copies only the blocks that are marked as used on a ProDOS volume. If the disk is not ProDOS, the "Full Disk" setting will AUTOMATICALLY be used for that copy. Any checksum calculated during a "Used Only" copy will be done in "Optimized" format (see Checksum Disk, below).

<> COPY TYPE full disk -- copies the entire diskette, ignoring disk format or free blocks. Copies of 5.25" disks will take less time using this option. Any checksum calculated during a "Full Disk" copy will be done in "DDD" format (see Checksum Disk, below).

<> FORMAT TYPE all disks -- will format the target disk even if the disk is already formatted. This option may be useful if you are copying to disks that have never been formatted before.

<> FORMAT TYPE when needed (default) -- will format the target disk only if necessary. DigiCopy will determine this by attempting to read some information off the disk. This setting will save time by eliminating unnecessary formatting.

<> BUFFER SIZE large and small -- there are two memory settings that DigiCopy can be placed in:

(1) BUFFER SMALL/RAM Disk write-enabled (default) -- allows the user to copy volumes to a control-panel-configured RAM Disk on a IIgs with more than 256k memory

(2) BUFFER LARGE/RAM Disk write-disabled -- allows the program to take memory that a "variable-sized" RAM Disk might later need.

<> You do not need to worry about buffer size if:

(a) The machine the program is running on only has 256k

(b) You are not using a RAM Disk; maximum size (control panel) is set to 0k

<> When using a RAM Disk, however, DigiCopy might obtain more memory with the Buffer Large setting (write-disabled) if:

(c) The maximum RAM Disk size is set equal to the minimum RAM Disk size in the Control Panel (you will still be able to write to your RAM Disk).

(d) The maximum and minimum are unequal but you do not intend to write to your RAM Disk (you will not be able to write to your RAM Disk under the Buffer Large setting).

<> If your maximum and minimum are unequal and you intend to write to your RAM Disk, you must stay in the Buffer Small setting. You may switch modes between copies without difficulty,

using the Program Settings option or by holding down the Open-Apple Key while pressing "T". This will toggle the buffer size.

<> You may hold down the OPTION and CONTROL keys simultaneously to view the current program settings. They will be displayed until the keys are released.

< USE OF PROGRAM FEATURES >

FORMAT TARGET -- destroys all current information on a device (if any) and prepares the disk for file storage (under ProDOS). Select a device by highlighting it in the TARGET window, then click twice in the "Format Target" button (a cursor will be placed between the "[" and "]" brackets). Type the volume name desired (ESCAPE will abort), or press RETURN to accept the displayed default name.

<> Formatting your target disk before copying isn't necessary (see the Program Settings section)

CHECKSUM DISK -- returns a value (checksum) for a disk, usually for comparison to another disk, to indicate an exact or faulty duplicate. Two different checksums are available, one for "DDD" format, the other for "Optimized" format (see description below). After selecting the device containing the disk from which the checksum is to be obtained, click in "Disk Checksum" twice. A window will open asking which checksum you would like. Select a checksum by clicking in its button. The program will display the final checksum when finished.

<> "DDD" format will perform a checksum on all blocks of a disk, while "Optimized" format (ProDOS only) will only examine the blocks on a disk which are marked as being used. The names "DDD" and "Optimized" refer to data communications standards used in DigiPack. Thus, a checksum obtained with DigiCopy will be identical to a checksum obtained with DigiPack.

<> When selecting a checksum you may press "S" on the keyboard for "Standard DDD" or "O" for "Optimized Format" instead of clicking in the respective buttons.

VIEW VOLUME INFO -- Select a device by highlighting it in the TARGET window and click twice in the "View Volume Info" button. The program will display various statistics associated with the disk in the drive.

RENAME TARGET -- allows you to change the name of a volume. Select the volume that you wish to change the name of by highlighting it in the TARGET window. Then click twice in "Rename Target". You may then either type the new name of the volume (a cursor will appear between the "[" and "]" brackets) or press RETURN to retain the current name.

OPTIMIZE TARGET -- this option writes zeroes to all unused blocks on a ProDOS volume (clearing all deleted information). Select the device to

optimize by highlighting it in the TARGET window. Then click twice in "Optimize Target". The program will begin optimization and display its progress.

EXIT DIGICOPY -- exits the program, and either returns to the application from which DigiCopy was run, or exits to the ProDOS quit routine.

OPEN-APPLE COMMANDS -- You may use the program's options in conjunction with the Keyboard by holding down the Open-Apple Key and then pressing the first letter of the desired command. For example, you could press Open-Apple-C instead of clicking twice in "Checksum Disk".

< ONE DRIVE OPTIONS >

<> DigiCopy makes the life of users with only one disk drive much more pleasant. It is recommended that you use the Buffer Large setting to maximize the available buffer space (as the buffer that DigiCopy has to work with increases, the number of disk swaps decreases).

<> When copying with one drive, the disk you are copying is referred to as the SOURCE disk, while the disk that is being written to will be referred to as the TARGET. Insert the disks as they are asked for; except for the swapping, the program will operate as usual.

<> Two helpful features are auto-eject and polling (supported only by the Apple 3.5 drive). When the program needs the other disk, the drive will auto-eject, and wait for you to insert the other disk. Once it is inserted, the program will continue automatically (this is called polling).

< FORTY-TRACK OPTIONS >

<> DigiCopy GS has the unique ability to copy almost any size device, including 40-track software, which will require special procedures in certain circumstances.

<> To format a 40-track ProDOS disk, use the procedure outlined above for formatting disks. To inform DigiCopy that it should format 40 tracks instead of 35, type the volume name desired, then hold down the OPTION key while pressing the "RETURN" key.

<> When copying 40-track ProDOS disk, it will automatically be detected, so follow normal procedures. A small, solid apple character will appear in the bottom, right hand corner of the duplicate window, indicating a 40-track copy. If the disk to be copied is only 35 tracks and the OPTION key is held down, the target disk will have the attributes of a 40-track disk, hence, this situation constitutes a 35 to 40-track "upload" (see below). To download from 40 to 35 track, you

must hold the Open-Apple key down while the duplicate window appears. These options allow for all possible 35/40 track combinations.

< MISCELLANEOUS FEATURES >

UPLOAD/DOWNLOAD -- another innovative feature developed by Fantastic Designs that is contained in DigiCopy is the ability to "cross-support" devices.

< **UPLOADING** -- example: A floppy disk (containing 280 blocks of data) can be properly copied to a 3.5" disk (holding up to 1600 blocks). All directory information will be automatically updated and adjusted accordingly.

< **DOWNLOADING** -- example: A 3.5" disk (1600 blocks of data) could be properly copied to a floppy disk (holding only 280 blocks) if the information on the original disk does not extend past block 280 (you may check this by looking at the "Highest Used" value displayed by the "View Volume Info" option). If the information will fit, all directory information will automatically be updated and adjusted.

< These features are particularly useful when using RAM disks, ROM disks, and copying between 35 & 40-track disks. The user no longer needs to be concerned with volume size; if the disk will not fit on or copy to a smaller device, an error will simply result and the user should use a larger device.

VOLUMES ONLINE -- to see a list of the ProDOS volumes currently online, click once in the SOURCE or TARGET button. The list will be displayed in the respective window.

EJECT -- if device specified in the TARGET window is an Apple 3.5 drive, you may eject the disk by holding down the OPTION key while pressing "E".

ABORTING OPERATIONS -- while duplicating, optimizing, or generating disk checksums, you may abort any of the the operations by pressing the ESCAPE key at any time.

SOUND TOGGLE -- to turn off all sounds that DigiCopy generates, hold down the OPTION key while pressing "S". The same key sequence can be used to re-enable all sounds.

OK/CANCEL BUTTONS -- any time an "OK" or "Cancel" button is shown, the RETURN key can be used instead of clicking in "OK", and the ESCAPE key can be used instead of clicking in "Cancel".

FILE CHECKSUM -- DigiPack GS, a previous product from Fantastic Designs, includes an option to calculate the checksum for a file. If you wish to ensure that your copy of DigiCopy GS is uncorrupted, the correct DigiPack file checksum is \$10C8.

SCREEN BLACKOUT -- if the program remains dormant (no mouse movement or pressing of keys) for over three minutes, the screen will "blackout" until the mouse is clicked or a key is pressed. This is a popular Macintosh(TM) feature that is also becoming popular on the GS.

QWIKTRACK -- will automatically result in floppy diskettes (when they are the TARGET during a duplicate procedure) operating more quickly and efficiently. To activate the QwikTrack option, simply press the "=" key. The word "QwikTrack" will appear next to the Copyright notice. You may turn the option off at any time by pressing the "=" key again. The time needed to duplicate will be slightly greater, but the duplicate will operate more quickly.

WRONG TARGET DISK -- if you accidentally insert the wrong disk in the target drive, you do not have to abort and restart. If the program said "OK to DESTROY /SYSTEM.DISK" and you meant to insert a disk with the name "/BLANK", remove "/SYSTEM.DISK" and insert "/BLANK". Then click in "OK". DigiCopy would then print "OK to DESTROY /BLANK". Your selection has been corrected, so just click in "OK" and DigiCopy will proceed normally.

INTELLIGENT ERROR CHECKING -- other copy programs abort operation if an error results, but DigiCopy doesn't. If you forgot to put a disk in the drive, if your drive door is open, or if your disk is bad or write protected, DigiCopy will inform you of this and allow you to correct the situation or abort the operation by pressing ESCAPE. Pressing a key or clicking the mouse will continue the operation.

< NOTE TO HARD DRIVE USERS >

<> DIGICOPY SHOULD NOT BE USED TO BACKUP OR FORMAT A HARD DISK DRIVE. The program will only recognize the first megabyte of storage, and all information contained thereafter will become inaccessible. NEVER SPECIFY YOUR HARD DRIVE IN THE TARGET WINDOW except when using the "View Volume Info" or "Rename Target" options.

< ABOUT COPY PROTECTED SOFTWARE >

<> DigiCopy is not a bit copier. It will not duplicate software that is "copy protected", that is, software in which the manufacturer has taken measures to prevent duplication. DigiCopy should not be used to copy any disk that has a special disk format, as any duplicates will not be accurate. Contact the manufacturer for information about obtaining duplicates of copy protected software.

< FURTHER INFORMATION >

For additional information, assistance, comments, or questions, the authors may be contacted in any of the following ways:

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CompuServe : 73407,553	< or >	P.O. Box 120
Genie : F.DESIGNS		Woodbury, NY 11797

<> Since our primary concern is supporting our users, we aim to provide as much support and assistance as possible (upon licensing, you will receive additional support information). If you are a licensed user, please include your ID number in all messages sent, or have it available when calling either of our voice support lines.

< ABOUT THE AUTHORS >

DAVID KLETTER founded Fantastic Designs in 1986 to unify a diverse group of independent programmers. Since then, residing in New York, he has written for a variety of computer publications, lectured at universities, spoken to user-groups, and will be doing supercomputer research at the Livermore National Laboratory this summer before attending MIT's Sloan School of Management in the fall.

TYRON KHAN is a freelance programmer, currently residing in Toronto, Canada. With an honors degree in computer science from the University of Toronto and over ten years of programming experience, he has lectured in many educational institutions and written several extensive theses on computer science theory.

FANTASTIC DESIGNS received its Certified Developership from Apple Computer, Inc. one year ago and changed its primary focus to GS-specific software. Although communication between cities is often difficult for large programming tasks, this hasn't stopped Fantastic Designs. Many more soon-to-be-released products will be available over the next few months.

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